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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/648,064	Applicant(s) CHANG ET AL.	
	Examiner Dennis Myint	Art Unit 2162	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 July 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 4, 5, 7, 10 and 12-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5, 7, 10 and 12-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 10, 2007 has been entered.

2. The amendment filed on July 10, 2007 has been received and entered. Claims 1, 4, 5, 7, 10, and 12-24 are pending in this application. Claims 1, 7, and 15 are independent claims. In the Amendment filed on July 10, 2007, claims 1, 7, 15, 21, and 22 were amended.

### ***Response to Arguments***

3. The applicant's arguments filed on July 10, 2007 have been fully considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The analysis under 35 U.S.C. 112, first paragraph, requires that the scope of protection sought be supported by the specification disclosure. The pertinent inquiries include determining (1) whether the specification disclosure as a whole is to enable one skilled in the art to make and use the claimed invention.

5. Claims 1, 4, 5, 7, 10, and 12-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 lines 3-5 and 11-14, Claim 7 in lines 10-12 and 17-22, and claim 15 in lines 45 and lines 12-16, all recite "to receive a dataset for storage **without scaling** exclusively on a magnetic tape storage medium" and "a scaling module implemented in software for execution on a processor and configured **to select a scaling storage instruction** in response to storage criteria applied to the storage characteristics that indicate scaling is beneficial" (claim 1); "to produce a dataset to be stored **without scaling** exclusively on the magnetic tape storage medium" and "and **select a scaling**

**storage instruction** in response to storage criteria applied to the storage characteristics of the dataset” (claim 7); and “receiving a dataset be stored **without scaling** exclusively on the magnetic tape storage medium” and “**selecting a scaling instruction to scale the magnetic tape storage medium** to a predefined capacity for optimal data access performance according to the determination”.

The claims contain conflicting and/or mutually exclusive limitations “without scaling” when considered with the limitation “selecting a scaling (storage) instruction”.

The Examiner interprets the limitation “to receive a dataset for storage **without scaling** exclusively on a magnetic tape storage medium” in claim 1 to mean “with scaling” in order to be compatible with the limitation “**to select a scaling storage instruction** in response to storage criteria applied to the storage characteristics that indicate scaling is beneficial”. Examiner similarly interprets claims 7 and 15 to mean “with scaling”, which appears to be consistent with the known practice.

Claims 4, 5, 21; 10, 12-14, 22, and 24; and 16-20 and 22 are rejected for fully incorporating the deficiencies of their respective base claims 1, 7, and 15 by dependency.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 1, 4, 5, 7, 10, and 12-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 lines 3-5 and 11-14, Claim 7 in lines 10-12 and 17-22, and claim 15 in lines 45 and lines 12-16, all recite "to receive a dataset for storage **without scaling** exclusively on a magnetic tape storage medium" and "a scaling module implemented in software for execution on a processor and configured **to select a scaling storage instruction** in response to storage criteria applied to the storage characteristics that indicate scaling is beneficial" (claim 1); "to produce a dataset to be stored **without scaling** exclusively on the magnetic tape storage medium" and "and **select a scaling storage instruction** in response to storage criteria applied to the storage characteristics of the dataset" (claim 7); and "receiving a dataset be stored **without scaling** exclusively on the magnetic tape storage medium" and "**selecting a scaling instruction to scale the magnetic tape storage medium** to a predefined capacity for optimal data access performance according to the determination".

Due to the apparent mutually exclusive limitations contained in claims 1, 12, and 23 (i.e., "without scaling" and "selecting a (storage) scaling instruction"), no meaningful comparison with the prior art can be made for limitation "without scaling" of claims 1, 7, and 15 at this time.

Further, the limitation "**without scaling**" is a NEGATIVE limitation that rendered the claims indefinite because it is an attempt to claim the invention by excluding what

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the inventors did not invent rather than distinctly and particularly pointing out what they did invent. In re Schechter, 205F.2d 185, 98 USPQ 144 (CCPA) 1953.

Claims 4, 5, 21; 10, 12-14, 22, and 24; and 16-20 and 22 are rejected for fully incorporating the deficiencies of their respective base claims 1, 7, and 15 by dependency.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 1, 4-5, 15-20, 21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gelb et al., (hereinafter "Gelb") (U.S. Patent Number 5018060) in view of Basham et al. (hereinafter "Basham")(U.S. Patent Number 5757571) and further in view of Stickler (U.S. Patent Application Publication Number 2003/0193994).

Referring to claim 1, Gelb et al. is directed to a system and method for selecting storage media to improve data access performance and teaches the limitations:

"a reception module implemented in software for execution on a processor and configured to receive a dataset from an application for storage exclusively on a magnetic tape storage medium" (Gelb, Figure 4: *Data Facility Product 32, Peripheral Data Storage 12*; Gelb, Column 18 Line 47 through Column 19 Line 59; Gelb, Column 12 Lines 64 through Column 13 Lines 15-23; and Column 16 Lines 65-68); and

"an identification module implemented in software for execution on a processor and configured to identify storage characteristics of the dataset" wherein the storage characteristics comprise expiration dates" (Gelb, Figure 4: *Data Facility Product 32 and* Gelb, Column 19 Lines 16-39, i.e. *The parameters in MGMTCLAS ACS ROUTINE are compared with the received data set parameters for determining a best comparison which indicates which of the management classes listed above is selected for the data set*; Gelb Column 6 Lines 41-56, i.e., *A data class specifies data set logical attributes, such as data set type, record length, data storage space requirements in terms of logical bytes not in terms of physical storage space requirements, **expiration and***



**retention dates** for the data set and any Virtual Storage Access Method (VSAM) data set options); and

“that indicate (scaling) is beneficial (Gelb, Column 3 Line 65 through Column 4 Line 11, i.e., *The patent does teach the concept of a group of storage volumes (virtual volumes in the tape library) which are scanned for finding a best suitable storage volume for storing a data set to be stored*) “; and

“the storage controller stores the dataset on a magnetic tape storage in response to the scaling storage instruction” (Gelb, Column 16 Lines 60 through Column 17 Lines 40, i.e., *Operators hand carry **tape reels** (volumes) between **storage unit(s)** 50 and tape drives of tape subsystem(s) 48 and 49. An automatic data media library ( tape o disk) 55 may also be included in peripheral data storage 12;* and Gelb, Figure 5 and Figure 6; Gelb, Column 7 Lines 1-35, i.e., *The column headings; RECFM--record format; LRECL--logical record length; AVGREC --**scale factor for data storing space** (i.e. megabyte (MB), kilobyte (KB) or other units of space)).* Gelb teaches a storing module (Gelb, Figure 4: *Data Facility Product 32*) which stores the data set on a storage medium (Gelb, *Figure 4: Peripheral Data Storage 12*) according to the storage characteristics of the data set (i.e. *received data set parameters*).

Gelb does not explicitly disclose the limitation: “a scaling module implemented in software for execution on a processor and configured to select a scaling storage instruction in response to storage criteria applied to the storage characteristics and communicate the selected scaling instructions to a storage controller, wherein the scaling storage instruction comprises an instruction to scale the magnetic tape storage

medium to a predetermined capacity for optimal data access performance” and “wherein storage characteristics comprise compaction and media interchange specifications”.

On the other hand, Basham teaches the limitation:

“a scaling module configured to select a storage scaling instruction in response to storage criteria applied to the storage characteristics communicate the selected scaling instructions to a storage controller, wherein the storage instruction comprises an instruction to scale the magnetic tape storage medium to a predetermined capacity for optimal data access performance” (Basham, Column 3 Lines 68-61, Column 11 Lines 25-30, Basham, Column 14 Lines 38-43, Column 14 Line 64 through Column 15 Line 6, and Column 15 Lines 16-39. Particularly note Column 3 Lines 68-61 which recites that *Until the tape is filled, future data may be stored by creating additional partitions as described above, each partition having a variable size appropriate to the amount of data stored therein*; Basham, Column 11 Lines 25-30 which recites that *an application may require assorted sizes of fixed-size partitions, each partition including one or more adjacent segments, as required by the application*; and Basham, Column 11 Lines 33-36 which recites that *As an example, partition sizes may be established by receiving user input (now shown) prior to tasks 502 and 604*) and ““wherein storage characteristics comprise compaction” (Basham et al., Column 5 Lines 55-64, i.e., *The controller 204 manages the exchange of user data between the tape medium 206 and the host 202. The controller 204 also handles other tasks associated with storage and*

*retrieval of user data, such as formatting, error checking, **compaction**, and other tasks that may be advantageously invisible to the host 202.).*

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the apparatus of Gelb to add the feature of storage medium scaling as taught by Basham et al., to the apparatus of Gelb for selecting storage media to improve data access performance so that the resultant apparatus would constitute an apparatus for selecting storage media scaling to improve data access performance, wherein the storing module (Gelb, Figure 4: *Data Facility Product 32*) would be performing the functions of the reception module, identification module, and scaling module of the claimed invention. One would have been motivated to do so in order to *more efficiently and conveniently locate, read, write, and update data stored on magnetic tape media* (Basham, Column 2, Line 47-49).

Gelb in view of Basham does not explicitly teach the limitation: "media interchange specifications".

On the other hand, Stickler teaches the limitation:

"media interchange specifications" (Stickler, Paragraph 1024, i.e., *the Generalized Media Archive (GMA) specification defines a serialization for MARS property value sets based on XML which is suitable for both **data interchange** as well as **persistent storage**, and provides a DTD and other mechanisms for validation and processing*).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the apparatus of Gelb in view of Basham to add the

feature of employing media interchange specifications as taught by Stickler to the apparatus of Gelb in view Basham so that the resultant apparatus comprise media interchange specifications in the storage characteristics. One would have been motivated to do so in order to transfer data in accordance with a pre-determined common standards (Stickler Paragraph 0007).

Referring to claim 4, Gelb in view of Basham and further in view of Stickler teaches the limitation:

“further comprising a determination module implemented in software for execution on a processor and (Gelb, Figure 4: *Data Facility Product 32*) configured to store a plurality of predefined storage criteria and compare the storage characteristics of the received dataset with the predefined storage criteria to determine the storage instruction” (Gelb, Column 12 Lines 43-61, i.e., *storage classes* and”, and Column 18 Line 47 through Column 19 Line 15, i.e., *compare the information*).

Referring to claim 5, Gelb in view of Basham and further in view of Stickler teaches the limitation:

“further comprising a mapping module implemented in software for execution on a processor (Gelb, Figure 4: *Data Facility Product 32*) configured to track capacity information for the storage medium that stores the dataset (Basham, Column 13 Lines 43-67, i.e., *automated padding*). Note that the system of Basham tracks the capacity of

the storage medium and such feature could be combined into the *Data Facility Product* of the system of Gelb.

Claim 15 is essentially the same as claim 4 except that it set forth the claimed invention as a computer readable storage medium to carry out a method for selecting storage medium scaling to improve data access performance rather than an apparatus for selecting storage media scaling to improve data access performance and rejected for the same reasons as applied hereinabove (Gelb, Column 4 Lines 25-27, i.e., (*Machine-effected method of the invention, ....*)). Claim 4 incorporates all the limitations of claim 1.

Referring claim 16 Gelb in view of Basham and further in view of Stickler teaches the limitation:

"wherein the method further comprises defining a plurality of storage characteristics as storage characteristics that require on optimally scaled magnetic tape storage medium" (Gelb, Column 8 Line 20-62). Gelb in view of Basham discloses the claim limitation. Specifically note that, in the apparatus/system of Gelb in view of Basham storage characteristics are defined for different levels of capacity, access mode, and performance (Gelb, Column 8 Line 20-62, i.e., *Storage classes and their service attributes*) and storage medium could be scaled as necessary employing the scaling method taught by Basham. Therefore, the method and system of Gelb in view of Basham further comprises defining a plurality of storage characteristics as storage

characteristics that either require storage on optimally scaled storage medium or satisfy storage criteria for storing the dataset on optimally scaled storage medium.

Referring to claim 17, Gelb in view of Basham and further in view of Stickler teaches the limitation:

“wherein the method further comprises defining a plurality of storage characteristics as storage characteristics that require storage on maximum capacity magnetic tape storage medium” (Gelb, Column 8 Line 20-62). Gelb in view of Basham discloses the claim limitation. Specifically note that, in the apparatus/system of Gelb in view of Basham storage characteristics are defined for different levels of capacity, access mode, and performance (Gelb, Column 8 Line 20-62, i.e., *Storage classes and their service attributes*) and storage medium could be scaled as necessary employing the scaling method taught by Basham. Therefore, the method and system of Gelb in view of Basham further comprises defining a plurality of storage characteristics as storage characteristics that either require storage on optimally scaled storage medium or satisfy storage criteria for storing the dataset on optimally scaled storage medium.

Referring to claim 18, Gelb in view of Basham and further in view of Stickler teaches the limitation:

“wherein determining further comprises identifying storage characteristics that satisfy storage criteria for storing the dataset on optimally scaled magnetic tape storage medium (Gelb, Column 8 Line 20-62). Specifically note that, in the apparatus/system of

Gelb in view of Basham storage characteristics are defined for different levels of capacity, access mode, and performance (Gelb, Column 8 Line 20-62, i.e., *Storage classes and their service attributes*) and storage medium could be scaled as necessary employing the scaling method taught by Basham. Therefore, the method and system of Gelb in view of Basham further comprises defining a plurality of storage characteristics as storage characteristics that either require storage on optimally scaled storage medium or satisfy storage criteria for storing the dataset on optimally scaled storage medium.

Referring to claim 19, Gelb in view of Basham and further in view of Stickler teaches the limitation:

“wherein determining further comprises identifying storage characteristics that satisfy storage criteria for storing the dataset on maximum capacity magnetic tape storage medium” (Gelb, Column 8 Line 20-62). Specifically note that, in the apparatus/system of Gelb in view of Basham storage characteristics are defined for different levels of capacity, access mode, and performance (Gelb, Column 8 Line 20-62, i.e., *Storage classes and their service attributes*) and storage medium could be scaled as necessary employing the scaling method taught by Basham. Therefore, the method and system of Gelb in view of Basham further comprises defining a plurality of storage characteristics as storage characteristics that either require storage on optimally scaled storage medium or satisfy storage criteria for storing the dataset on optimally scaled storage medium.

Claim 20 is essentially the same as claim 5 except that it set forth the claimed invention as a computer readable storage medium to carry out a method for selecting storage medium scaling to improve data access performance rather than an apparatus for selecting storage media scaling to improve data access performance and rejected for the same reasons as applied hereinabove.

As per claim 21, Gelb in view of Basham and further in view of Stickler teaches the limitation:

"wherein the scaling module is further configured to select the scaling storage instructions using a pre-defined look-up table containing a plurality of datasets that determine whether the received dataset is to be scaled" (Gelb Column 4 Lines 57-62 in view of Basham. Gelb Column 4 Lines 57-62 recites *The classes and groups are first defined using interactive means by a so-called Storage Administrator. The defined classes and groups are assembled into **control tables** used to implicitly select data devices based on logical level specifications about the data set to receive an allocation of peripheral data storage space*).

Claim 23 is essentially the same as claim 21 except that it set forth the claimed invention as a computer readable storage medium to carry out a method for selecting storage medium scaling to improve data access performance rather than an apparatus



for selecting storage media scaling to improve data access performance and rejected for the same reasons as applied hereinabove

11. Claim 7, 10, 12, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gelb in view of Basham and further in view of Stickler and further in view of Bergsten (U.S. Patent Application Publication Number 2003/0204672).

Referring to claim 7, Gelb in view of Basham and further in view of stickler as applied to 1 does not explicitly teach the limitations: "a network", "coupled to a network", and "from the controller over the network".

Bergsten teaches the limitation:

"a network", "coupled to a network", and "from the controller over the network" (Figure 3: *Network Adapter 312* and Paragraphs 0032 and 0033). Bergsten teaches a system and means of an advanced storage controller which is attached to a network (Figure 3 and Paragraphs 0032 and 0033).

At the time the invention was made, it would have been obvious to person of ordinary skill in the art to add the feature of coupling a storage system controller to a network as taught by Bergsten to the system and apparatus of Gelb in view of Basham so that the resultant system would be a system for scaling a storage medium to improve data access performance, the system comprising:

"a network configured to communicate data" (Bergsten, Figure 3: *Network Adapter 312* and Paragraphs 0032-0033);

“a storage controller coupled to the network” (Bergsten, Figure 3: *Network Adapter 312* and *Advanced Storage Controller 100* and Paragraphs 0032-0033);

“a magnetic storage device having a magnetic storage medium configured to store data” (Gelb, Figure 4: *Peripheral Data Storage 12*) “received from the controller over the network” (Bergsten, Figure 3: *Network Adapter 312* and *Advanced Storage Controller 100* and Paragraphs 0032-0033). The method and system of Basham accepts input data and scales tape capacity only because applications, which sent input data to the method and system of Basham, did not perform tape scaling in advance. In other words, it is inherent that the method and system of Basham accepts input data from applications that does not support scaling.);

“a host coupled to the network” (Gelb, Figure 4: *host processor 10* and Column 15 Lines 51-67 and Bergsten, Figure 3: *Network Adapter 312* and Paragraphs 0032-0033), “the host configured to exchange data with the controller” (Bergsten, Figure 3: *Advanced Storage Controller 100* and Paragraphs 0032-0033);

“an application operating within the host, the application configured to produce a dataset to be stored on the storage medium” (Gelb, Figure 4: *Application Programs 30* and Column 15 Lines 51-67);

“an identification module implemented in software for execution on a processor and configured to identify storage characteristics of the data set that indicate scaling is beneficial, wherein the storage characteristics comprise compaction, expiration dates and media interchange specifications” (Gelb in view of Basham and further in view of Stickler as applied to claim 1)

and “a scaling module configured to communicate with the application” (Gelb Figure 4: *Data Facility Product 32*, Figure 4: *Application Programs 30* and Column 15 Line s51-67) and “select a scaling storage instruction in response to storage criteria applied to storage characteristics of the dataset and communicate the selected instructions to the storage controller” (Gelb, Column 12 Lines 43-61, i.e., *storage classes* and Column 18 Line 47 through Column 19 Line 15, i.e., *compare the information*), “wherein the scaling storage instruction comprises an instruction to scale the magnetic tape storage medium to a predefined capacity for optimal data access performance” (Basham, Column 3 Lines 68-61, Column 11 Lines 25-30, Column 14 Lines 38-43, Column 14 Line 64 through Column 15 Line 6, and Column 15 Lines 16-39) and the storage controller stores the dataset on the magnetic tape storage device in response to the scaling storage instruction”( Gelb, Column 16 Lines 60 through Column 17 Lines 40).

One would have been motivated to do so because network attached storage systems (NAS) is well known in the art and commonly implemented today.

Claim 10 is rejected on the same basis as claim 4. Note that the storing module (Gelb, Figure 4: *Data Facility Product 32*) would be performing the functions of the reception module, identification module, and scaling module of the claimed invention.

Referring to claim 12, Gelb in view of Basham and further in view of Stickler and further in view of Bergsten teaches the limitation:

“wherein the scaling module operates within the host” (Gelb, Figure 4: *host processor 10 and Data Facility Product 32 and Column 15 Lines 51-67*).

As per claim 22, Gelb in view of Basham and further in view of Stickler and further in view of Bergsten teaches the limitation:

“wherein the scaling module is further configured to select the storage instructions using a pre-defined look-up table containing a plurality of datasets that determine whether the received dataset is to be scaled” (Gelb Column 4 Lines 57-62 in view of Basham. Gelb Column 4 Lines 57-62 recites *The classes and groups are first defined using interactive means by a so-called Storage Administrator. The defined classes and groups are assembled into **control tables** used to implicitly select data devices based on logical level specifications about the data set to receive an allocation of peripheral data storage space*).

12. Claim 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gelb in view of Basham and further in view of Stickler and further in view of Bergsten and further in view of Riedel et al. (hereinafter “Riedel”) (Erik Riedel, Garth Gibson and Christos Faloutsos, *Active Storage for Large-Scale Data Mining and Multimedia, Proceedings of the 24<sup>th</sup> VLDB Conference, New York, USA, 1998*).

Referring to claims 13, Gelb in view Basham and further in view of Stickler and further in view of Bergsten does not explicitly teach the limitation: "wherein the scaling module operates within the storage controller".

Riedel teaches the limitation:

"“wherein the scaling module operates within the storage controller” (Page 1, Paragraph 2, Page 3 Figure 1, Column 1, and Paragraph 1 through Page 3 Column 2 Paragraph 1). Riedel teaches a system and method called *Active Storage* wherein application code is executed within the storage device controller/storage device (Page 1, Paragraph 2, i.e., *General purpose microcontrollers with 100-200 MHz processing speeds are already being incorporated into high-end commodity disk drives*; Page 3 Figure 1, i.e., *The Trend in Drive Electronics*; and Page 3, Column 1, Paragraph 1 through Page 3 Column 2 Paragraph 1, i.e., *With Active Disks, excess computation power in storage devices is available directly for application-specific function in addition to supporting these existing storage specific optimizations.* ).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the feature of exploiting the processing power of embedded microprocessors inside disk controller/disk to execute application code as taught by Riedel to the system of Gelb in view of Basham and further in view of Bergsten so that, in the resultant system, the scaling module would operate either within the storage controller or the storage device. One would have been motivated to do so in order to *exploit the processors embedded in individual storage device for some of the*

*data-intensive applications common in data mining and multimedia databases* (Riedel et al., Page 1, Column 2, Line 2-6).

Referring to claim 14, Gelb in view of Basham and further in view of Stickler and further in view of Bergsten and further in view of Riedel teaches the limitation:

“wherein the scaling module operates within the magnetic tape storage device” (Page 1, Paragraph 2, Page 3 Figure 1, Column 1, and Paragraph 1 through Page 3 Column 2 Paragraph 1). Also refer to the action on claim 13 for this limitation.

13. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gelb in view of Basham and further in view of Stickler and further in view of Bergsten and further in view of Mehlberg et al., (hereinafter “Mehlberg”) (U.S. Patent Application Publication Number 2003/0120379).

As per claim 24, Gelb in view of Basham and further in view of Stickler and further in view of Bergsten does not explicitly teach the limitation: “comprising an accessor configured as a robotic arm with cartridge gripper and a bar code scanner mounted on the cartridge gripper, wherein the accessor transports the magnetic tape storage medium to the magnetic tape storage device”.

On the other hand, Mehlberg teaches the limitation:

“comprising an accessor configured as a robotic arm” (Mehlberg, Paragraph 0004, i.e., *robotic arm*) “with cartridge gripper” (Paragraph 0026, i.e., *cartridge retrieval*

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*mechanism and a robotic hand or gripper*) and “a bar code scanner mounted on the cartridge gripper” (Paragraph 0028, i.e., *bar code scanned by the barcode scanner*), wherein the accessor transports the magnetic tape storage medium to the magnetic tape storage device” (Figure 1, i.e., Tape Library and Paragraph 0011, i.e., *tape library*).


At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the feature of using a robotic arm/gripper to the system of Gelb in view of Basham and further in view of Stickler and further in view of Bergsten so that the resultant system would comprise a robotic arm/gripper which retrieves tape cartridges. One would have been motivated to do so in order to automatically load data cartridge, which is a well-known practice in the art.


**Contact Information**

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Myint whose telephone number is (571) 272-5629. The examiner can normally be reached on 8:30 AM - 5:30 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-5629.

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